IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) ~~Method~~ A method of recording marks ~~in~~ on an information layer ~~(301)~~ of a record carrier ~~(30) by~~, comprising acts of:

irradiating ~~the~~ an information layer ~~by~~ with a pulsed radiation beam ~~(32)~~ to record marks on said information layer, said information layer having a phase that is reversibly changeable between a crystal phase and an amorphous phase,

wherein an even mark having a time length of nT is written by a sequence of n/2 pulses, where n ~~is representing~~ denotes an integer value equal to 4, 6, 8, or 10 and T ~~is representing the~~ denotes a length of one period of a reference clock, ~~is written by a sequence of n/2 pulses,~~ and

wherein an odd mark having a time length of nT is written by sequence of (n-1)/2 pulses, where n ~~is representing~~ denotes an integer value equal to 5, 7, 9 or 11, ~~is written by as sequence of (n-1)/2 pulses,~~

wherein a last pulse in the sequence of pulses for writing an odd mark ~~being~~ has a period $\Delta 1p$ longer than a last pulse in the sequence of pulses for writing an even mark,

wherein a gap preceding the last pulse in the sequence of pulses for writing an odd mark ~~being~~ has a period Δ1g longer than a gap preceding the last pulse in the sequence of pulses for writing an even mark,

wherein the periods Δ1g and Δ1p have an unequal duration,

wherein a cooling gap succeeding the last pulse in the sequence of pulses for writing an odd mark ~~being~~ has a period Δ2 longer than a cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark, and

~~the~~ wherein a sum of the periods Δ1p, Δ1g, and Δ2 ~~being~~ is within a range from 0.7T to 1.1T.

2. (Currently Amended) ~~A~~ The method according to claim 1, wherein the sum of the periods Δ1p and Δ1g is within a range from 0.25T to 0.75T.

3. (Canceled)

4. (Currently Amended) ~~A~~ The method according to claim 1 wherein a mark having a time length of 3T is written by a single pulse ~~being~~ having a period Δ3 longer than the last pulse in the sequence of pulses for writing an even mark, and wherein a subsequent cooling gap ~~being~~ has a period Δ4 longer than the cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark, and wherein ~~the~~ a sum of the periods Δ3 and Δ4 is within a range from 0.7T to 1.1T.

5. (Currently Amended) ~~A~~ The method according to claim 4, wherein ~~the~~ a duration of the last pulse in the sequence of pulses for writing an even mark (Tp) is substantially equal to 7.2 ns;

~~the period Δ1p has a duration substantially equal to 2/8T;~~

~~the period Δ1g has a duration substantially equal to 2/8T;~~

wherein the duration of the cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark (Tc) is substantially equal to 5/8T; the period Δ2 has a duration substantially equal to 3/8T;

wherein the period Δ3 has a duration substantially equal to 7/8T – 7.2 ns; and

wherein the period Δ4 has a duration substantially equal to 5/8T.

6. (Currently Amended) ~~A~~ The method according to claim 5, wherein ~~the~~ a start of the single pulse for writing a mark having a time length of 3T relative to the start of a period of the reference clock corresponds to the start of the first pulse in the sequence of pulses for writing an even mark relative to the start of a period of the reference clock.

7. (Currently Amended) A recording device for recording marks ~~in~~ on an information layer ~~(301)~~ of a record carrier ~~(30) by irradiating the information layer by means of a pulsed radiation beam (32), each mark being written by a sequence of one or more pulses, said information layer having a phase reversibly changeable between a crystal phase and an amorphous phase~~, the device comprising:

a radiation source ~~(31) for providing the~~ configured to generate a radiation beam to irradiate an information layer using a pulsed radiation beam to record marks on said information layer, wherein each mark is written by a sequence of one or more pulses, and wherein said information layer has a phase that is reversibly changeable between a crystal phase and an amorphous phase, and

a control unit ~~(62) operative for controlling the~~ configured to control power of the radiation beam and ~~for providing~~ to provide the sequences of pulses for recording the marks such that an even mark having a time length of nT is recorded by a sequence of n/2 pulses, where n ~~is representing~~ denotes an integer value equal to 4, 6, 8, or 10, and where T ~~is representing the~~ denotes a length of one period of a reference clock, ~~is recorded by a sequence of n/2 pulses~~ and such that an odd mark having a time length of nT is written by sequence of (n-1)/2 pulses, where n ~~is representing~~ denotes an integer value equal to 5, 7, 9 or 11, ~~is written by as sequence of (n-1)/2 pulses,~~

wherein a last pulse in the sequence of pulses for writing an odd mark ~~being~~ has a period $\Delta 1p$ longer than a last pulse in the sequence of pulses for writing an even mark,

wherein a gap preceding the last pulse in the sequence of pulses for writing an odd mark ~~being~~ has a period $\Delta 1g$ longer than a gap preceding the last pulse in the sequence of pulses for writing an even mark,

wherein the periods $\Delta 1g$ and $\Delta 1p$ have an unequal duration,

wherein a cooling gap succeeding the last pulse in the sequence of pulses for writing an odd mark ~~being~~ has a period $\Delta 2$ longer than a cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark, and

wherein the sum of the periods Δ1p, Δ1g, and Δ2 ~~being~~ is within a range from 0.7T to 1.1T.

8. (Currently Amended) A recording device for recording marks ~~in~~ on an information layer ~~(301)~~ of a record carrier ~~(30) by irradiating the information layer by means of a pulsed radiation beam (32), each mark being written by a sequence of one or more pulses, said information layer having a phase reversibly changeable between a crystal phase and an amorphous phase~~, the device comprising:

a radiation source ~~(31) for providing the~~ configured to generate a radiation beam to irradiate an information layer using a pulsed radiation beam to record marks on said information layer, wherein each mark is written by a sequence of one or more pulses, and wherein said information layer has a phase that is reversibly changeable between a crystal phase and an amorphous phase ,

a control unit ~~(62) operative for controlling the~~ configured to control power of the radiation beam and ~~for providing the~~ to provide sequences of pulses for recording the marks, wherein the pattern of pulses and gaps between the pulses in a sequence of pulses is based on a set of write parameters (~~Δ1~~, Δ1p, Δ1g, Δ2,Δ3,Δ4) provided to the control unit,

an identification unit ~~(63) operative for identifying~~ configured to identify the record carrier, and

a selection unit (~~61) operative for selecting~~ configured to select a set of write parameters from a collection of sets of write parameters ~~(611)~~ based on ~~the~~ an identification of the record carrier and ~~for providing~~ to provide the control unit with the selected set of write parameters,

wherein the selection unit ~~further operative for providing~~ is further configured to provide the control unit with a default set of write parameters ~~(612)~~ when the identification unit is incapable of identifying the record carrier ~~and/~~or the selection unit is incapable of selecting a set of write parameters from the collection of sets of write parameters based on the identification of the record carrier or if the identification unit and the selection unit is incapable of said identifying and selecting, respectively,

wherein said default set of write parameters ~~being~~ are such that an even mark having a time length of nT is recorded by a sequence of n/2 pulses, where n ~~is representing~~ denotes an integer value equal to 4, 6, 8, or 10 and T ~~is representing the~~ denotes a length of one period of a reference clock, ~~is recorded by a sequence of n/2 pulses~~ and an odd mark having a time length of nT is written by as sequence of (n-1)/2 pulses, where n is representing an integer value equal to 5, 7, 9 or 11, ~~is written by as sequence of (n-1)/2 pulses,~~

wherein a last pulse in the sequence of pulses for writing an odd mark ~~being~~ has a period $\Delta 1p$ longer than a last pulse in the sequence of pulses for writing an even mark,

wherein a gap preceding the last pulse in the sequence of pulses for writing an odd mark ~~being~~ has a period $\Delta 1g$ longer than a gap preceding the last pulse in the sequence of pulses for writing an even mark,

wherein the periods $\Delta 1g$ and $\Delta 1p$ have an unequal duration,

wherein a cooling gap succeeding the last pulse in the sequence of pulses for writing an odd mark ~~being~~ has a period Δ2 longer than a cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark, and

~~the~~ wherein a sum of the periods Δ1p, Δ1g, and Δ2 ~~being~~ is within a range from 0.7T to 1.1T.

9. (Currently Amended) ~~A~~ The recording device according to claim 7, wherein the sum of the periods Δ1p and Δ1g is within a range from 0.25T to 0.75T.

10. (Currently Amended) ~~A~~ The recording device according to claim 7 wherein the control unit is further ~~operative for providing~~ configured to generate a sequence of pulses for recording a mark having a time length of 3T, said sequence of pulses for recording a mark having a time length of 3T comprising a single pulse ~~being~~ having a period Δ3 longer than the last pulse in the sequence of pulses for writing an even mark, and a subsequent cooling gap being a period Δ4 longer than the cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark, the sum of the periods Δ3 and Δ4 being within a range from 0.7T to 1.1T.